

Conference Paper

Bio-Art Between Bios and Zoe

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Abstract

In this article, bio-art is analyzed in the framework of critical posthumanism, a specific feature of which is anti-anthropocentrism. Posthumanist theories predetermine the relationship of a modern person with himself, the world around him, and non-human agents. In this regard, the scope of the concepts of bios and zoe is being reconsidered, as long as they specify the difference between human and non-human life. Posthumanism is based on the idea of a broader understanding of zoe as the common basis of all life forms, including bios. Bio-art is genetically linked to posthumanism. The latest discoveries in biology have mainstreamed posthumanism issues and inspired the emergence of this art form. But more often than not, bios and zoe act as opposites in bio-art, since bio-art uses life and its various forms as media. Technological innovations allow artists to create new forms of life or to manipulate existing ones. The interrelation of these two terms (bios and zoe) is employed as the key criterion to confirm or refute the assumption that bio-art is associated with the ideas of posthumanism by analyzing some widely known works of bio-art.

Keywords: bio-art, posthumanism, transhumanism, bios, zoe

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1. Introduction

Nowadays, science and art are not antipodes anymore. Their current relations can rather be described as symbiotic, the example of which is science-art. Modern technologies were successfully incorporated by art in the form of new media. This fact provided artists with a whole range of previously unthinkable and powerful means of artistic expression. At the same time, some of the media employed by science-art are perceived as controversial by the general public and professional audience. Among the most discussion-provoking is the topic of bio-art media.

Being a part of science-art, bio-art is a hybrid of biology and hi-tech, "of digit and cell" [1, 72]. In this regard, it is arguably the most audacious form of contemporary art. Using technological innovations, bio-art is pushing natural boundaries and creating new forms of life. Recent emergence of bio-art is no accident. At the heart of this kind of art is modern human's reinterpretation of his position in culture and nature. The very existence of bio-art conceptualizes many problems connected with relations between

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humans and various non-humans. In this regard, the range of its issues is inspired by a new concept of human understanding, that is, posthumanism.

2. Posthumanism As the Context of Bio-art

Posthumanism is one of the advanced intellectual intuitions of our time. Nevertheless, there is no single straightforward definition of this concept. Posthumanism is not homogenous. One of its branches places its hopes in using the technologies that would make it possible for human to move to a new level, becoming superhuman, posthuman, possibly existing outside of the body (R. Kurzweil). In that respect, posthumanism is similar to transhumanism. Another understanding of posthumanism is used within the framework of this research. Critical posthumanism captures human's new relations with himself, as well as with non-human life forms. For the most part it is connected with reconsidering the relations with anthropocentrism and humanism. Despite coming into the spotlight conceptually at the turn of the XXI century, it has been evolving throughout the whole XX century. It is based on the fact that Western culture realized the crisis of classical (renaissance) humanism and its values. Critique of humanism alongside with belittling the image of human result in devaluing its claims to power over the world and its inhabitants. The subsequent postmodernist critique of classical subject leads to deconstruction of the latter, stating its disintegration. The Death of Man (M. Foucault), The Death of the Author (R. Barthes), and The Ends of Man (J. Derrida) are declared one after another. Anthropocentrism is ultimately losing its significance as the all-encompassing explanatory model that would provide guidance for building hierarchies of relations between human and nature, animals, and many others.

In the context of posthumanism theories both ontological and epistemological foundations of humanities are being reconsidered. The central idea of critical posthumanism is the crisis of anthropos that ultimately leads to the end of its domination. Human is no longer a privileged being. The result of the humanist paradigm shift and its replacement with the posthumanist one is not only departure from anthropocentrism. It also includes revision of many human representations that were perceived as axioms before. For instance, the idea that nature and culture are antipodes. Within the new paradigm they are no longer viewed as parts of a binary opposition, but rather as "nature-culture" continuums, as D. Haraway puts it. Or the idea of the blurring boundaries between life as bios, which is the prerogative of human, and the independent "zoe-centered system of species egalitarianism" [2, 26]. Discoveries in biology transform our perception of the human body. It turns out that our body and our life are not exactly ours, that we

coexist in a "compound" with many others, for instance, microbiota, and that fact alone raises questions about our selfhood. That creates a new understanding of subject as a part of a community, or, according to R. Braidotti, "transvernal entity totally immersed in the network of non-human relations (with animals, plants, viruses) and immanent in that network" [2, 37]. This, in turn, confronts us with the problems of coexisting with other, non-human agents in the world with no hierarchies, and where new ethical connections need to be established.

In this regard, we are bound to note the thought-provoking question of whether humankind is ready to at least admit the hypothetical possibility of accepting those ideas, if not to implement them immediately. What is the correlation between the scientific theory and the dominating ideas of social mind? Is human ready to be perceived as one of many members of horizontal communities that include not only humans, but also various "non-humans"? Flat ontologies inevitably result in new anthropologies. It implies that human would voluntarily abandon the role of the "king of nature" or "the vicar of God on Earth". In the anthropocene era, man is forced to reconsider his relationship with the planet and its inhabitants. Such ideas are being actively debated in the society. At the same time, the world after humanism and beyond it is for the most part described through fragmented practices that declare changing the relations between human and non-human agents as desirable. Those are thought experiments of a sort, but their logic brings us to the need to reshape both our position in the world and our relations with Others.

Posthumanism theories serve as a major framework for studying a wide range of topical issues of our time. M. Bakke suggests that "biotransformations currently taking place in the fields of art, science, and daily life have posthumanistic nature. They shift the focus of our attention from subjective human life to non-human life forms, such as animals, plants, microbes, life in general, as well as new life forms, whose existence and survival is made possible with technological support" [3, 10]. Nonetheless, the influence of such ideas on public consciousness should not be exaggerated. In popular culture, the critical version of posthumanism is clearly losing to transhumanism. It would seem that sci-fi is actively generating images of the future, but the idea of "Kin", of "Cthulucene" suggested by D. Haraway [4, 208] is definitely not dominating in cinema, or in sci-fi literature, or even in comics. But perhaps the mass segment of modern culture just has not reflected on this problem, and the situation is different at its higher levels?

3. Bio-art: Life As Media

Consequently, appealing to bio-art is of particular interest, because in a sense it is genetically connected with posthumanism. Both are based on numerous discoveries in biology made in the second half of the XX century. This kind of art is associated with the latest research, such as tissue and genetic engineering, molecular biology, and cloning. According to M. Kozhevnikova, "There is a large amount of evidence suggesting that the revolution in biology gave rise to the posthumanism revolution" [5, 34]. But that very same "revolution in biology" contributed to the emergence of bio-art, which made many of those discoveries aesthetically complete. And the feedback should not be ignored here: more often than not it is the ideas of artists that pose new challenges to the scientists, who are often their collaboration partners, inspiring new research for solving nontrivial problems.

Bio-art is a part of "hybrid art", that is the art that evolves at the interface between science, art, and hi-tech, particularly biotech. In the words of R. Ascott, biological art is employing moist and dry media. The former term refers to "the wet biology of living systems", and the latter -- to pixels, "silicon world" [6, 200]. In a broader sense, bio-art is a form of art that works with any biological material, whether animal or human. According to L. Andrews, among such materials are not only genetically modified bacteria, or artificially synthesized DNA used to create pieces of art, but also blood, urine, etc. [7, 128]. In fact, the materials for bio-art works may include fat removed from human bodies during liposuction (Stelarc); baby teeth, hip joints left after joint replacement surgery (Czarnecki). And of far greater interest are bio-art manipulations with various life forms.

According to the founders of this art E. Kac, bio-art is a new form of art that "manipulates life" [3, 8]. The specific nature of bio-art is, first and foremost, that this kind of art works with *live* biological material: cells, tissues, bacteria, organisms, processes. It operates with life and its processes as with biomedica.

Since the time of Aristotle, two notions were used to describe life: bios and zoe. The first one would refer to noteworthy human life, and the second one -- to life outside the human dimension, life in the broadest sense. For a long time zoe has been missing the attention of humanistic tradition and human sciences. Posthumanism interprets zoe in a much broader sense. Not only is it considered the basis for bios, but also recognized as a common denominator for all life forms. According to M. Bakke, zoe is a "generative driving force preceding all things human and spreading beyond all things human" [3, 39]. For one thing, such optics shift invokes taking a new look at the relations between everything human and non-human. Secondly, it opens a doorway to the establishment

of the new subjectivity, including zoe as "the other face of bios" [9, 37]. Keeping in mind the interrelatedness of bio-art and posthumanism, it would be logical to assume that the artists interpret the concept of zoe just as broadly. But is that really true?

Bio-art works with various life forms that artists create by manipulating biological materials. Genetic engineering, xenotransplantation (transplantation of cells, tissues, or organs from one species to another) combined with the digital technologies allow artists to redesign biological species according to their creative vision. The produced chimeras are "organisms that have cells or organs of the organisms that belong to different biological species" [10, 11]. One of such examples is the well-known bioluminescent albino rabbit named Alba (GFP Bunny, 2000) glowing under ultraviolet light. It is one of the most significant works of E. Kac. Alba is a transgenic rabbit; its zygote in the body of his mother was implanted with Green Fluorescent Protein, or GFP, that is found in *Aequorea victoria* jellyfish. The difference between Alba and other pieces of bio-art is that Alba has never been a part of an exhibition; the public was only presented with the records of the project. Commenting on this and similar projects, bio-art expert M. Heberle notes that such artists' creations are "absolutely indistinguishable from similar organisms that developed naturally... They are alive and are exact copies of real things" [11, 55]. This circumstance causes concerns, above all else associated with the possibility that those creatures might escape from exhibition areas, which could lead to unpredictable consequences.

4. Bios Vs Zoe?

Works of bio-art, chimeras and hybrids, bring the artists' dream into reality: turning from depicting life to creating life. But isn't it an extension of humanism by different means? For instance, by means of transhumanism. In this paradigm, human is considered a link in the evolutionary chain, whose capabilities can be significantly increased through technology. Empowered by biotech, human has acquired new capabilities, which include not only editing the existing life forms, but also creating new ones. But this fact brings to mind creepy allusions, among which is the Frankenstein's monster or the archetypal cinematic villain -- mad scientist. No wonder many bio-art projects provoke arduous discussions on ethics, biological safety, etc.

A piece of bio-art may be represented by the process of life unfolding observed in specific organisms (or microorganisms). Such pieces of art often end the same way any life does -- with death. The most ethically challenging are the projects that involve demonstration of death, cessation of vital functions at the will of the artist or a spectator.

For instance, the interactive project of A. Vermeulen's ("Blue Shift", 2005) included a set of aquaria with fish and water fleas as fish food. Visitors' actions could result in deaths of the former or the latter. The artist was interested in the "evolutionary" element of the fleas' behavior and their ability to survive by acquiring new reflexes. It turned out that some of them were able to do it. Nevertheless, the ethical side of the project was questionable, which was reflected in the discussions on violence in the context of bio-art.

Violence may underlie even the projects that look explicitly humane at first glance. "Embracing Animal" (2004) by K. High was dedicated to the act of "non-human hospitality" that the artist offered to three transgenic lab rats by bringing them to her own home. Due to some previous manipulations, the rats suffered from the same disease as the artist. Although the artist had created the best living conditions and gave them names, the result of the experiment was controversial: the artist could hardly deal with disgust of the rats; she was also confused by the ethical side of the project. Nonetheless, in a year she repeated the project, only this time with other rats and in a gallery. Both times the project involved just as much violence as a laboratory with test animals. And most importantly, there was no mutuality. Studying K. High's work, I. Aristarkhova noted that "conditions and places of interaction were chosen by the artist" [12, 51].

Apart from living organisms, artists also work with so called "semi-live" organisms produced in laboratories and not intended for existing in other environments. Most of them exist "in vitro", in test tubes. According to I. Zurr, "The semi-living are tissue structures (i.e. systems of cells similar in origin, structure and functions) of an organism that were grown outside of such organism in a special growth medium [13, 157]. For instance, "Tissue culture & Art project" (TC&A) founded by O. Catts and I. Zurr is growing "Angel's wings". The controversial nature of such projects lies in the fact that the new life forms created by the artists are extremely vulnerable and not self-sufficient. They are totally at the mercy of humans. Artists decide how long life in a certain organism or cell will be supported. Death is a part of the plan, the final stage of an exposition. In such cases artists speak of death as of a flip side of life, preferring not to focus on the particular causes of it. An artist can decide the fate of a living or semi-living agent himself or delegate this role to a spectator. "The semi-living" can only exist in specific environments, where any changes could lead to their death. Sometimes even a trivial action, such as opening a lid of a container letting air and bacteria in, might be enough. Sometimes death is caused by a visitor touching a "semi-living" sculpture.

In all those cases bios is suppressing zoe. New life forms are created as exhibition projects and cease their existence when the exhibition is over. It is human who gets to

decide what they are like and how long they live. M. Bakke suggests that such actions do not involve the ethics of killing. They have nothing to do with violence. Despite the fact that certain living organisms die, life as zoe continues. "Life -- zoe with its dynamics of reproduction, feeding, merging, contagion, death and killing -- goes beyond the scope of moral choice and rational decisions made by humans" [3, 183]. Nevertheless, in all those cases bios is actively interfering with the natural course of life.

I. Zurr suggests that such artistic endeavors "aim to raise public concerns about the extent human can go to in manipulating living organisms, and about the responsibility for the existence of "the semi-living" [13, 157]. But when the artists claim that bio-art is critical towards lab experiments, they sound at least misleading. After all, it lets anyone "play God" in full conformity with anthropocentrism. Not only an artist creating projects involving various life forms, but also a visitor choosing a scenario for the living parts of a work. That is why the reaction of Theresa Schubert to her own work ("Growing Geometries -- tattooing mushrooms", 2015) seems perfectly understandable. The project is an installation consisting of living mushrooms put in containers where they continue their vital activity. Their caps are tattooed with geometric shapes that change as mushrooms grow. As an apology to her non-human partners, the artist tattoos not only the mushrooms, but also herself. In such a way she equalizes the significance of the bodies: her own and those of the mushrooms. In that respect, of particular interest are the projects in which artists use their own bodies as media. E. Kac, for one, inserted a copy of his own DNA in a petunia, creating a transgenic plant that he called "Edunia" ("Natural History of the Enigma", 2003-2009). This hybrid is a result of merging of a human and a plant. On one hand, that might be interpreted as bios making a conciliatory gesture toward zoe. On the other hand, it is nothing but a "contamination" of a plant with human genetic material.

5. Conclusion

Despite the concepts of posthumanism, which claim that a person is not a special creature standing above the world, that he is a part of it, like all the various "non-humans", human bio-art projects refute these statements. This ongoing anthropocentric violence against life is made public, being put into the exhibition space. And the fact that some artists share their biological material with "non-humans" does not change much in this balance of power. Indeed, human is able to transplant his tissues to another organism, but he is not ready to accept biological material from other creatures. He would rather prefer to get a gadget implant (like Stelarc) and turn into some kind

of cyborg. A human-machine hybrid is apparently better received by many than a chimera, and that is easy to explain. The first situation makes human a superhuman, while the second one -- a half animal. Nevertheless, some bio-art projects provide powerful illustrations of the way bios becomes equal to zoe. Such cases are rare, but they exist. For instance, a project by Art Orienté objet ("May the horse live in me!", 2011), in which the artist M. Laval-Jeantet was injected with horse immunoglobulin. The interesting thing about the project is that the human is not sharing her genetic material with another organism, but is accepting foreign material. In full accordance with the ideas of posthumanism, bios merges with zoe.

In his "Genesis" project (1999) E. Kac inscribed an English quote from the Bible to a bacterium genome: "Let man have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moves upon the earth". Throughout the course the vital activity of the bacteria, the text was affected by mutation, mistakes and decay. That looks symbolic and inspires hope. Slowly but surely, critical posthumanism is transforming both art and the way we deal with non-human life forms. And even though there are still very few projects where bios and zoe act as equal agents, such intention is manifested and therefore will develop.

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